RGPV WINC	•				I			heet Vo. 1/3		
Branch		]	Refrige	ration And Air Cond	litioning	Semester		V		
Course Co	de	50	3	Course Name	System Control And Instrumentation					
Course O	Outcor	me 1	contro	l used in RAC syste			Teach Hrs	Marks		
Learning (	Outcor	me 1	refrige	ration and air cond			5	10		
Con	tents			•	ture measuring device nt. Types of Thermom		ion of			
Method of	Assess	ment	Paper	pen test						
Learning (	Outcor	me 2	Explai	n the working of va	arious thermometers.		10	10		
Con	tents		bimeta		er, gas thermometer, portable thermometer et device					
Method of	Assess	ment	Theory	y exam						
Learning (	Outcor	me 3	Explai thermo		working of various Thermocouple, and 10					
Con	tents		record pyrom	ing instruments	ypes of Thermocouple, temperature indicating a ts use with thermocouple, radiation and option at, two position thermostat, electronic thermost					
Method of	Assess	ment	-	y exam						
Course O	Outcom	ne 2			ring instrument and its	s control.	Teach Hrs	Marks		
Learning (	Outcor	me 4		in the working of used in RA	manometer and difference C systems	ent pressure	8	10		
Con	tents		bellow	s in pressure gaug	ter, types and its use e, burden tube pressur be differential pressure	e gauge, diff	•	0 0		
Method of	assess	ment		pen test						
Learning (	Outcor	me 5	transdı	ucers.	ruction and working		8	10		
Con	ntent		constr		on, characteristics and classification of transdu orking of resistance, inductance, capacitance ers.					
Method of	assess	ment	Theory	y exam	kam					
Course O	Outcom	ne 3	Descri	be refrigeration sys	stem balancing and cor	ntrols.	Teach Hrs	Marks		
Learning (	Outcor	ne 6		various types ting valve.	of pressure and	temperature	10	10		

	T		
Contents	Evaporator pressure regulator, suction pressure regulat regulating valve, solenoid valve, check valve, pressure relief		perature
Method of Assessment	Theory exam		
Learning Outcome 7	Explain about the various refrigeration accessories and its control.	10	10
Contents	Refrigerant pumps, cooling tower fans, compressor m	•	
	devices, oil equalizing in multiple evaporators, different	defrosti	ing and
	capacity control method and their implications-Testing of a	air condi	itioners,
	refrigerators, visi coolers, cold rooms, calorimetric tests.		
Method of Assessment	Theory exam		
Learning Outcome 8	Explain remote and computerized controlling in Modern RAC Systems	10	30
Contents	Remote controller kit for air conditioners, computerized ren		
	of multipoint air conditioning zones.VRF Controllers, controllers		
	Terminals functions of damper and actuator in VRF Sy	ystem. I	Building
Method of Assessment	management system Laboratory Test by observation(part of practical exam)		
Wethod of Assessment	Laboratory Test by observation(part of practical exam)		
Course Outcome 4	Describe electrical switches and relays and other	Teach	Marks
	controlling equipments in RAC systems	Hrs	
Learning Outcome 9	Explain relays and different types of motor and valve.	5	10
Contents	Relays, Hot wire current coil etc., electrical damper mo	otors, pn	eumatic
	motors, modulating motors, control motors, two position of	damper	motors,-
	control valves solenoid types, diaphragm and motorized va	alves, th	ree way
	valves.		
Method of Assessment	Theory exam		
Learning Outcome 10	Explain overload protection and other equipments	5	10
Contents			10
	potential thermal overload protection for hermetic motors.	Oil sep	
	potential thermal overload protection for hermetic motors. discharge mufflers, accumulators, filters, driers, strainers, sig	-	
Method of Assessment	1	-	
Method of Assessment Course Outcome 5	discharge mufflers, accumulators, filters, driers, strainers, sig	-	
	discharge mufflers, accumulators, filters, driers, strainers, sig  Assignment/quiz	ht glass.	aration-
Course Outcome 5	discharge mufflers, accumulators, filters, driers, strainers, sig  Assignment/quiz  Describe sound and vibration control for RAC systems  Classify sound, its intensity and characteristic.  Sound, sound power and sound power level, intensity an	Teach Hrs 10 d charace	Marks 10 eteristic,
Course Outcome 5  Learning Outcome 11	discharge mufflers, accumulators, filters, driers, strainers, sig  Assignment/quiz  Describe sound and vibration control for RAC systems  Classify sound, its intensity and characteristic.  Sound, sound power and sound power level, intensity an loudness, loudness level of noise, noise level, sound control	Teach Hrs 10 d charace	Marks 10 eteristic,
Course Outcome 5  Learning Outcome 11	discharge mufflers, accumulators, filters, driers, strainers, sig  Assignment/quiz  Describe sound and vibration control for RAC systems  Classify sound, its intensity and characteristic.  Sound, sound power and sound power level, intensity an	Teach Hrs 10 d charace	Marks 10 eteristic,
Course Outcome 5  Learning Outcome 11  Contents	discharge mufflers, accumulators, filters, driers, strainers, sig  Assignment/quiz  Describe sound and vibration control for RAC systems  Classify sound, its intensity and characteristic.  Sound, sound power and sound power level, intensity an loudness, loudness level of noise, noise level, sound control indoor refrigeration and air conditioning system.  Laboratory Test by observation(part of LW)  Explain vibration and isolation of refrigeration and air	Teach Hrs 10 d charace	Marks 10 eteristic,
Course Outcome 5  Learning Outcome 11  Contents  Method of Assessment  Learning Outcome 12	discharge mufflers, accumulators, filters, driers, strainers, sig  Assignment/quiz  Describe sound and vibration control for RAC systems  Classify sound, its intensity and characteristic.  Sound, sound power and sound power level, intensity an loudness, loudness level of noise, noise level, sound control indoor refrigeration and air conditioning system.  Laboratory Test by observation(part of LW)  Explain vibration and isolation of refrigeration and air conditioning system.	Teach Hrs 10 d character outcome	Marks 10 eteristic, loor and
Course Outcome 5  Learning Outcome 11  Contents  Method of Assessment	Assignment/quiz  Describe sound and vibration control for RAC systems  Classify sound, its intensity and characteristic.  Sound, sound power and sound power level, intensity an loudness, loudness level of noise, noise level, sound control indoor refrigeration and air conditioning system.  Laboratory Test by observation(part of LW)  Explain vibration and isolation of refrigeration and air conditioning system.  Vibration, vibration isolation, sound and vibration measur noise in ducts, isolation of duct vibration, isolation of vibration.	Teach Hrs 10 d character for outcome	Marks 10 eteristic, loor and 10 air flow
Course Outcome 5  Learning Outcome 11  Contents  Method of Assessment  Learning Outcome 12	Assignment/quiz  Describe sound and vibration control for RAC systems  Classify sound, its intensity and characteristic.  Sound, sound power and sound power level, intensity an loudness, loudness level of noise, noise level, sound control indoor refrigeration and air conditioning system.  Laboratory Test by observation(part of LW)  Explain vibration and isolation of refrigeration and air conditioning system.  Vibration, vibration isolation, sound and vibration measurements.	Teach Hrs 10 d character for outcome	Marks 10 eteristic, loor and 10 air flow

Learning Outcome 13	Explain the various types of vibration isolator materials	5	10
	used in refrigeration and air conditioning ducts.		
Contents	Types of vibration isolator materials like a natural rubber, vib	oration is	solation,
	steel spring, static deflection, coil spring.		
Method of Assessment	Theory exam		

# SCHEME FOR LEARNING OUTCOME

В	Branch Code			urse Co	de	CO Code	LO Code	
R	0	1	5	0	3	1	1	Format No.

COURSE NAME	SYSTEM CONTROL AND INSTRUMENTATION
<b>CO Description</b>	CO-1: Describe the Temperature measuring instruments and its control used in RAC systems
LO Description	LO-1: Define Various temperature measuring device used in refrigeration and air conditioning systems

#### **SCHEME OF STUDY**

S. No.	Learning Content	Teaching –Learning Method	Description of T-L Process	Teac h Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Introduction of temperature measuring device, Classification of temperature measurement. Types of Thermometers.	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge	5		Handouts, Charts, Videos	NIL

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks Resources Required Interi				
1	Paper pen test	Student will be asked to the temperature measuring device used in refrigeration and air conditioning	10	Test paper+Rating scale	Internal		

# SCHEME FOR LEARNING OUTCOME

	LO Code	CO Code	de	ourse Co	Co	e	anch Cod	Ві
Format No. 4	2	1	3	0	5	1	0	R

COURSE NAME	SYSTEM CONTROL AND INSTRUMENTATION
CO Description	CO-1 Describe the Temperature measuring instruments and its control used in RAC systems
LO Description	LO-2 Explain the working of various thermometers.

#### **SCHEME OF STUDY**

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Liquid filled thermometer, gas thermometer, vapor pressure thermometer, bimetallic thermometer, portable thermometer and thermometer temperature probe. Probes. Noncontact device	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge	10		Handouts, Charts, Videos, Models of renewable power generation	

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Theory exam	Student will be asked to working of thermometers.	10	Question paper+Rating scale	External

# SCHEME FOR LEARNING OUTCOME

Farmet No. 1	LO Code	CO Code	Course Code			Branch Code		
Format No. 4	3	1	3	0	5	1	0	R

COURSE NAME	SYSTEM CONTROL AND INSTRUMENTATION
CO Description	CO-1 Describe the Temperature measuring instruments and its control used in RAC systems
LO Description	LO-3 Explain the working of various Thermocouple, and thermostat.

#### **SCHEME OF STUDY**

S. No.	Learning Content	Teaching –Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Purpose Various types of Thermocouple, temperature indicating and recording instruments use with thermocouple, radiation and optical pyrometer, thermostat, two position thermostat, electronic thermostat, pneumatic thermostat	Interactive Classroom method, Handout, PPTs, Charts and Videos, Working Models of power utilization	Teacher will explain the contents and provide handout to students.  Teacher will conduct Quiz/visit to make students practice their knowledge	10		Handouts, Charts, Videos, Working Models	NIL

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Theory exam	Student will be asked to Application of various types of Thermocouple, and thermostat	10	Question paper+Rating scale	External

<b>RGPV</b>	(Diploma	Wing )	Bhopal
	1 - 10 : 0 : : : :		, = : : •   • • : :

# SCHEME FOR LEARNING OUTCOME

	LO Code	CO Code	de	urse Co	Co	e	ranch Cod	Br
Format No. 4	4	2	3	0	5	1	0	R

COUR	SE NAME	SYSTEM CONTROL AND INSTRUMENTATION						
	•	CO -2 Describe Pressure measuring instrument and its control						
LO Des	scription	LO-4 Explain the working of manometer and different pressure gauge used in used in RAC systems						

#### **SCHEME OF STUDY**

S.No	Learning Content	Teaching -Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remark
1	Introduction of manometer, types and its use, well type pressure gauge, bellows in pressure gauge, burden tube pressure gauge, differential pressure gauge, and diaphragm type differential pressure devices.	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge	8		Handouts, Charts, Videos	

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	Student will be asked Explain the working of manometer and different manometer, pressure gauge	10	Test paper +Rating scale	Internal

# SCHEME FOR LEARNING OUTCOME

В	ranch Coc	le	Co	ourse Co	de	CO Code	LO Code	
R	0	1	5	0	3	2	5	Format No. <b>4</b>

COURSE NAME	SYSTEM CONTROL AND INSTRUMENTATION
CO Description	CO -2 Describe Pressure measuring instrument and its control.
LO Description	LO-5 Explain principle construction and working of different transducers

#### **SCHEME OF STUDY**

S. No	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remark
	Transducer-introduction, characteristics and classification of transducer, construction and working of resistance, inductance, capacitance and piezoelectric transducers.	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge	8		Handouts, Charts, Videos	

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
	Theory exam	Student will be asked to classification, principle construction and working of different transducers.	10	Question paper+Rati ng scale	External

# SCHEME FOR LEARNING OUTCOME

	LO Code	CO Code	de	urse Co	Co	e	anch Cod	Ві
Format No. 4	6	3	3	0	5	1	0	R

COURSE NAME	SYSTEM CONTROL AND INSTRUMENTATION
CO Description	CO-3 Describe refrigeration system balancing and controls.
LO Description	LO-6 Define various types of pressure and temperature regulating valve.

#### **OF STUDY**

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remark
1	Evaporator pressure regulator, suction pressure regulator, temperature regulating valve, solenoid valve, check valve, pressure relief valve.		Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge	10		Handouts, Charts, Videos	

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
	Theory exam	Student will be asked to Define various types of pressure and temperature regulating valve.	10	Question paper +Rating scale	External

F	RGPV (Dipl	oma Wing )	SCHEME F	OR LEARNING	В	ranch Co	ode	Co	ourse Co	ode	CO Code	LO Code	Form	nat No.
		pal	OU	TCOME	R	0	2	5	0	3	3	7	4	
COI	URSE NAME	SYSTEM CONTROL	AND INSTRUMEN	NTATION										
CO D	escription	CO-3 Describe refri	igeration system ba	lancing and controls										
LO D	escription	LO-7 Explain about	t the various refrige	eration accessories an	d its cor	ntrol.								
				SCHEME OF STUDY	Y									
S. No		Learning Content		Teaching – Learning Method	Desci T-L	riptio Proce			eac h rs.	/1	act. Tut rs.		Rs uired	Rema k
	motor protect evaporators, control metho	mps, cooling tower ion devices, oil equa different defrosting dand their implication efrigerators, visi coosts.	lizing in multiple g and capacity ons-Testing of air	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher explain content provide to stude Teacher conduct Quiz/v. make s practice knowled	the s and e hand ents. r will t isit to tuden e their	lout o ts	1	LO			Hand Char Vide	,	
			SC	HEME OF ASSESSM	ENT									
S. No.	Method o		Description	of Assessment					laxin Maı	-	_	source quire	es d	Externa / Interna
	Theory exam			rigerant pumps, cooli ces, oil equalizing in n	_	r fans	,		10		_	tion pa ing sca	-	Externa
		ADD	OITIONAL INSTRU	CTIONS FOR THE H	OD/ FA	CULT	Y (IF	ANY	)					

DCD!	/ /Diala	one Mine \ Dhenel	SCHEME FOR LEA	ARNING	E	Branch Co	de	С	ourse Co	de	CO Code	LO Code	<b>A</b>
KGPV	יוקוט) /	oma Wing ) Bhopal	OUTCOMI	Ē	R	0	1	5	0	3	3	8 Format	No. <b>4</b>
COURS	SE NAME	SYSTEM CONTROL AND IN	NSTRUMENTATION										
CO Des	cription	CO-3 Describe refrigeration	system balancing and control	S.									
LO Des	cription	LO-8 (IOT) Explain remote	and computerized controlling	in Modern RAG	C Sys	stems							
			SCHEME	OF STUDY									
S. No.		Learning Co	ntent	T-L Method		escrip T-L Pro			each Hrs.		ract. ıt Hrs.	LRs Required	Rem ark
		controller kit for air conditione		Interactive		acher v					10	Handouts,	

#### controlling of multipoint air conditioning zones. VRF Controllers, Classroom explain the Charts, control panels, VAV Terminals functions of damper and actuator in method, contents and Videos, VRF System. Building management system Handout provide handout Experiment PPTs, to students. al setup for Charts and Teacher will dryness Videos. conduct fraction Quiz/visit to make students practice their knowledge

#### **SCHEME OF ASSESSMENT**

S.	No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
		Laboratory Test by observation	Student will be asked to Explain Remote controller, computerized remote controlling of multipoint air conditioning zones.VRF Controllers, control panels, VAV Terminals damper and actuator. Building management system	30	Observation schedule/ch eck list/rubric/ra ting scale	External

RC	SPV (Dip	loma Wing )	SCHEME FOR	LEARNING	Br	anch Co	de	С	ourse Co	de	CO Code	LO Code		<b>A</b>
	Bh	opal	OUTC	OME	R	0	1	5	0	3	4	9	Form	at No. 4
COUR	SE NAME	SYSTEM CONTROL AI	ND INSTRUMENTATI	ON				I	I					
CO De	scription	CO-4 Describe electrica	al controlling equipmen	nts in RAC system	ms									
LO Des	cription	LO-9 Explain relays an	d different types of mo	otor and valve.										
	<u> </u>			SCHEME OF S	STUDY									
S. No.		Learning Conto	ent	T-L Method	Desci	riptio Proce		Γ-L	Tea Hrs	_	Pract. /Tut Hrs.	LRs Re	equired	Remark
	pneumatic n position dan	wire current coil etc., ele notors, modulating motors aper motors,-control valve and motorized valves, thre	es, control motors, two	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher the cont provide students determine entropy	ents a hando . Expo	and out to erime		5				, Videos, mental	
			S	CHEME OF ASS	ESSMEN	IT								I
S. No.	Method of Assessme		Description of A	ssessment					imum arks	1		urces uired		ternal / ternal
	Theory exam		ked to explain the Relation trol valves solenoid type		• •		S,		10		Question +Rating		Extern	al
			ADDITIONAL INSTR	UCTIONS FOR 1	ГНЕ НОГ	)/ FA	CULT	Y (IF	ANY)					

RGPV (Diploma Wing )	)
Bhopal	

# SCHEME FOR LEARNING OUTCOME

В	ranch Co	de	Co	ourse Co	ode	CO Code	LO Code	
R	0	1	5	0	3	4	10	Format No. <b>4</b>

COURSE NAME   SYSTEM CONTROL AND INSTRUMENTATION
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**CO Description** CO-4 Describe electrical switches and relays and other controlling equipments in RAC systems

**LO Description** LO-10 Explain overload protection and other equipments

#### **SCHEME OF STUDY**

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. / Tut Hrs.	LRs Required	Remark
	potential thermal overload protection for	Interactive	Teacher will explain the	5		Handouts,	
	hermetic motors. Oil separation-discharge	Classroom	contents and provide handout to			Charts,	
	mufflers, accumulators, filters, driers, strainers,	method, Handout,	students. Teacher will conduct			Videos,	
	sight glass.	PPTs, Charts and	Quiz/visit to make students			Experimental	
		Videos. Models of	practice their knowledge			setup for	
		boilers, mountings				dryness	
		and accessories				fraction	

#### SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
	Assignment/Q uiz	Student will be asked to Explain Hot wire current coil and potential thermal overload protection for hermetic motors. Oil separation-discharge mufflers, accumulators, filters, driers, strainers, sight glass.	10	Observation schedule/che ck list/rubric/rat ing scale	Internal

RGPV (Diploma		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No.
Wing ) Bhopal			R 0 1 5 0 3					3	5	11	4		
COU	COURSE NAME SYSTEM CONTROL AND INSTRUMENTATION												
CO Des	cription	CO-5 Describe sound and	vibration control for R	AC systems									
LO Desc	cription	LO-11 Classify sound, its	intensity and character	ristic.									
	SCHEME OF STUDY												
S. No. Le		rning Content	T-L Method	Descripti	Description of T-L Process					P	ract.	LRs	Remark

S. No.	Learning Content	T-L Method	Description of T-L Process	Teach	Pract.	LRs	Remark
				Hrs.	/Tut Hrs.	Required	
	Sound, sound power and sound power	Interactive	Teacher will explain the contents		10	Handouts,	
	level, intensity and characteristic,	Classroom	and provide handout to students.			Charts,	
	loudness, loudness level of noise, noise	method, Handout	Experimental determination of			Videos,	
	level, sound control for outdoor and	PPTs, Charts and	dryness fraction			Experime	
	indoor refrigeration and air conditioning	Videos, Models				ntal setup	
	system.					for	
						dryness	
						fraction	

### SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
	Laboratory Test by observation	Student will be asked to explain Sound, sound power and sound power level, sound control for outdoor and indoor refrigeration and air conditioning.	10	Observation schedule/check list/rubric/rating scale	Internal

<b>RGPV</b> (Diploma	SCHEME FOR LEARNING OUTCOME		Branch Code			urse Co	de	CO Code	LO Code	
Wing ) Bhopal			0	1	5	0	3	5	12	Format No. <b>4</b>
COURSE NAME	SYSTEM CONTROL AND INSTRUMENTATION									
CO Description	CO-5 Describe sound and vibration control for RAC s	ystems								
LO-12 Explain vibration and isolation of refrigeration and air conditioning system.										
SCHEME OF STUDY										

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remar k
	Vibration, vibration isolation, sound and vibration measurement, air flow noise in ducts, isolation of duct vibration, isolation of vibration and noise in pipes,.	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge		9	Handouts, Charts, Videos, models	

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
	Laboratory Test by observation	Student will be asked to explain Vibration, isolation, sound and vibration measurement, air flow noise in ducts, isolation of duct vibration, isolation of vibration and noise in pipes,	10	Observation schedule/check list/rubric/rating scale	Internal

<b>RGPV</b> (Diploma	SCHEME FOR LEARNING		Branch Code			urse Cod	de	CO Code	LO Code	_
Wing ) Bhopal	OUTCOME	R	0	1	5	0	3	5	3	Format No. <b>4</b>
COURSE NAME	SYSTEM CONTROL AND INSTRUMENTATION									
CO Description	CO-5 Describe sound and vibration control for refriger	ation a	nd air	conditio	oning s	ysten	n			
LO Description	LO-13 Explain the various types of vibration isolator materials used in refrigeration and air conditioning ducts.									

#### **SCHEME OF STUDY**

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remar k
	Types of vibration isolator materials like a natural rubber, vibration isolation, steel spring, static deflection, coil spring.	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge	5		Handouts, Charts, Videos, models	

#### **SCHEME OF ASSESSMENT**

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
	Theory exam	Student will be asked to Types of vibration isolator materials like a natural rubber, vibration isolation, steel spring, static deflection, coil spring.,	10	Question paper+Rating scale	External